



BULLETIN

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Providing for Michigan's Safety in the Built Environment

August 2003

DIRECTOR'S COLUMN

Henry L. Green

Code Updates

The Bureau of Construction Codes and Fire Safety is pursuing the updating of all codes administered by the Bureau to assure the latest editions of the codes are in place and available for use by local communities, contractors and design professionals. Some have questioned the need to update codes every three years. The frequency of updating is intended to address new innovations in construction technology, to address emerging science in the building community, and to provide clarification of those issues that have presented difficult understanding of the technical requirements of the codes in place.

Michigan has long held that updating its codes every three years is important for these very reasons. With the merger of the Bureau of Construction Codes and the Office of Fire Safety, the inclusion of regulations for school construction and the recent addition of the Rehabilitation Code for Existing Buildings, it is important that the codes administered in the State provide for reasonable coordination of the codes, eliminate duplicative standards, and address overlaps in the application of the codes.

The codes being proposed for updating address these vitally important steps *Providing for Michigan's Safety in the Built Environment*.

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New On-line Corner Index System

by Maynard Dyer, Director
Office of Land Survey and Remonumentation

The Office of Land Survey and Remonumentation has updated the Survey and Remonumentation Computerized Corner Index System that was originally created in 1993. Created as a DOS dBase application, the original version was later converted to a Windows application. Both the DOS version and the Windows version are still in use. The newer computers commonly in use today have difficulty running this application and the new on-line version is timely for several participating counties.

Each corner that is remonumented under the program has a Land Corner Recordation Certificate (LCRC) filed with both the county Register of Deeds and the Office of Land Survey and Remonumentation. To index the LCRCs that are filed for each completed corner, as well as to maintain the data associated with these corners, a Computerized Corner Indexing System and data management program was developed. This program provides for reporting and maintaining data on each corner such as the county, municipality, corner type, dates of each state of corner development, recording data, monumentation surveyor, and state plane coordinate date when determined by the county. A complete listing of the data maintained on each corner and the data format has been available on the bureau's web site. This file description may be accessed by clicking on [remon.pdf](#). The actual data for the corners has been available by importing REMON.ZIP into any software page that supports comma delimited text files. All corner data maintained has been provided on disk or by e-mail by the counties when reporting the remonumentation of work program corners.

The new on-line Corner Index System will maintain the same data with the exception of the addition of the adjustment year associated with the state plane coordinates. Each county will have access to their individual data entry section of the program. Once the data has been entered, a county may transfer it electronically for filing with the state by a single click of the mouse. Once the corner has been filed with the state, the information will be available to the public. Digital images of the LCRCs will be available on-line when an image exists. The new system replaced all old versions and became available for use in July 2003. The system may be accessed from the "Quick Links" on the bureau's home page at www.michigan.gov/bccfs.

Questions may be directed to the Office of Land Survey and Remonumentation at 517/241-6300.

The Bureau Welcomes Todd Cordill, Assistant Chief, Plan Review Division

As of June 23, 2003, the Plan Review Division has a new assistant chief. Mr. Todd Cordill is an architect licensed in the states of Michigan and Wisconsin with a Bachelor of Science in Architectural Studies and a Master of Architecture from the University of Illinois. He has 16 years of experience in the profession of architecture. Mr. Cordill has been employed by Hobbs & Black Associates, Lansing, Michigan as a Project Manager Associate for the past 7 years. As a project manager, he supervised the practice of architecture for complex projects. He coordinated all aspects of construction projects from initial client contact and programming through completion of construction.



"Serving Michigan... Serving You"

Director's Column, continued...

Over the past 14 months, two significant tragedies have occurred that require examination to address the on-going occupancy of buildings and the need to provide for the safety of the public. I am convinced that through our coordinated efforts and the continued application of sound standards that provide measured levels of safety by qualified, competent code and fire officials, the buildings in which we live, work, worship, educate and play will provide an environment that is safe from harm of fire and other disasters.

The codes need to address both natural and man-made disasters. We can accomplish this goal by learning from our experiences, using the latest technology and the diligent application of the standards. It is equally important that code and fire officials keep abreast of changes and possess a complete understanding of the standards and the background that cause the implementation and application of the standards.

Updating the codes is one step necessary to assure the safety of the public through increased clarity of the codes, reaction to developments in technology, and use of new innovative products.

Last Line of Defense

Robert J. Aben, Jr., Chief
Boiler Division

Within the boiler industry, safety and safety relief valves are considered one of the most important safety components of a boiler. These valves are literally the **last line of defense** against catastrophic failure of the pressure parts of a boiler should other controls and safety devices fail. The frequencies for testing required by R 408.4027 of the Michigan Boiler Rules are not arbitrary figures without support of the standards writing industry.

The basis for the testing frequency comes from several nationally recognized standards. Review of ASME code CSD-1 table D-1 appendix D states that testing of these valves are to be in accordance with ASME code sections VI, Recommended Rules for the Care and Operation of Heating Boilers and section VII, Recommended Guidelines for Care of Power Boilers. ASME code section VI states that for steam and water boilers the safety valve should be tested by lifting the try lever every 30 days of operation and after any period of inactivity. ASME code section VII addresses power boilers stating that the normal testing cycle is one year.

Another standard that addresses the testing frequency of safety and safety relief valves is the National Board of Boiler and Pressure Vessel Inspectors Inspection Code (NBIC). This standard recommends manual testing every 2 months for hot water boilers and power boilers operating at less than 400 psi.

Inspection experience indicates failure of a safety or safety relief valve to re-seat after a manual test is usually caused by contaminants in the water or steam in the boiler. These contaminants prevent the valve from operating properly and are most often caused by inadequate boiler maintenance; for example, regular blowdown, proper water treatment, etc. Infrequent testing of the valve can cause contaminants to build up at the valve seat also preventing it from functioning properly.

The lack of proper testing of these valves is the most common cause of inoperable valves.

The owner or user of a boiler is required to ensure that the boiler is properly maintained and safely operated. The boiler law places the responsibility directly on the owner or user to ensure testing of controls

and safety devices is conducted in accordance with the requirements of R 408.4027 of the Michigan Boiler Rules.

If you have any questions regarding this subject, please call the state deputy boiler inspector in your area or the Boiler Division at 517/241-9334.

Higgins Lake Training Update

The Bureau of Construction Codes and Fire Safety will again be offering state sponsored seminars at the MacMullan Conference Center (Higgins Lake). Interested inspectors should take note that for the 2003 - 2006 code cycle, the Bureau's training programs will not change. In other words, the building, electrical, mechanical, and plumbing programs offered by the Bureau will remain the same during the three-year cycle. The intent is to make available the Bureau sponsored training programs to as many different inspectors as possible from around the state. The Bureau has found its programs to be of considerable interest as indicated by early reservation of the available training dates, especially by newly registered inspectors. If the seminar date of your choice for the calendar year is full, the same training programs will be offered in each of the next two years. The following dates have been scheduled for 2004:

Building Inspector (Two-Weeks)

1st week: December 6 – 10, 2004

2nd week: January 24 – 28, 2005

Electrical Inspector

March 29 – 31, 2004

October 6 – 8, 2004

Mechanical Inspector

February 25 – 27, 2004

September 20 – 22, 2004

Plumbing Inspector

February 11 – 13, 2004

October 18 – 20, 2004

Each seminar will accommodate 35 individuals. Please contact the Office of Local Government & Consumer Services at (517) 241-9347 to reserve a place for the seminar of your choice. As the scheduled dates approach, confirmation of your reservation will be provided along with an agenda and payment information.

The *BULLETIN* is a quarterly publication of the Bureau of Construction Codes & Fire Safety within the Michigan Department of Consumer & Industry Services.

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**Providing for
Michigan's Safety
in the Built Environment**

Public Hearings

Watch the bureau website for notification of public hearings on the Michigan building, electrical, mechanical and plumbing code rules and the rehabilitation code for existing buildings.

Radon Control Methods

by Larry Lehman, Chief
Building Division

Numerous questions have been raised relative to radon control measures. Some of the most frequently asked questions are:

Has the state of Michigan adopted appendix F? Yes, the state of Michigan adopted appendix F, Radon Control Measures as part of the 2000 Michigan Residential Code (MRC), therefore this appendix is applicable in the state.

What is radon? Radon is a radioactive gas. It comes from uranium and radium in the soils, which can be found everywhere in the world. Uranium is present in rocks such as granite, shale, phosphate, and pitchblende. Uranium breaks down to radium, which then decays into radon. This gas can easily move up through the soil into the atmosphere. Natural deposits of uranium, not man-made sources, produce most of the radon present in the air.

Should a local enforcing agency require the installation of radon control methods in new construction? It is the opinion of this office that a sub-slab depressurization system (passive system) shall be installed in all new homes located in Zone 1, which includes Branch, Calhoun, Cass, Hillsdale, Jackson, Kalamazoo, Lenawee, St. Joseph, and Washtenaw counties. Whether or not this is a complete system vented to the building's exterior is at the discretion of the local enforcing agency based upon historical data and testing. Good building practices go a long way toward providing an effective barrier. A floor slab is required to be installed over a gravel or stone base with a 6-mill vapor barrier in accordance with the MRC. While these installations help prevent moisture from traveling through

Scheduled Board Meetings

MEETING	DATE	TIME	LOCATION
Board of Mechanical Rules	August 27	9:00 a.m.	Okemos-Conf. Room 3
State Plumbing Board	September 2	10:00 a.m.	Okemos-Conf. Room 2
Elevator Safety Board	September 5	9:30 a.m.	Okemos-Conf. Room 3
Board of Boiler Rules	September 9	9:30 a.m.	Okemos-Conf. Room 1
Barrier Free Design Board	September 12	9:30 a.m.	Okemos-Ste. 116 Conf. Room
Manufactured Housing Commission	September 17	10:00 a.m.	Okemos-Conf. Room 3
State Fire Safety Board	September 17	1:00 p.m.	General Office Building
Construction Code Commission	September 24	9:30 a.m.	Okemos-Conf. Room 3
Electrical Administrative Board	October 3	9:30 a.m.	Okemos-Conf. Room 1
State Fire Safety Board	October 15	1:00 p.m.	General Office Building
Board of Mechanical Rules	October 22	9:00 a.m.	Okemos-Conf. Room 3
State Plumbing Board	October 29	10:00 a.m.	Okemos-Conf. Room 2
Manufactured Housing Commission	October 29	10:00 a.m.	Okemos-Conf. Room 3
Construction Code Commission	November 5	9:30 a.m.	Okemos-Conf. Room 3
Barrier Free Design Board	November 14	9:30 a.m.	Okemos-Ste. 116 Conf. Room
State Fire Safety Board	November 19	1:00 p.m.	General Office Building
Elevator Safety Board	November 20	9:30 a.m.	Okemos-Conf. Room 3

Okemos - 2501 Woodlake Circle, Okemos
General Office Building - 7150 Harris Drive, Lansing, Conference Room B

License Exam Schedule

EXAMINATION	DATE	LOCATION	DEADLINE
Mechanical Contractor	September 17	Lansing	August 19
Journeyman Electrician	October 14, 15, & 17	Okemos	September 18
Elevator Journeyperson	October 15	Okemos	September 25
Master Electrician	October 16	Okemos	September 18
Elevator Contractor & Certificate-of-Competency	November 20	Okemos	October 23
Mechanical Contractor	December 2	Detroit	October 30
Mechanical Contractor	December 3	Detroit	October 31
Master and Journey Plumber	December 3	East Lansing	November 6
Boiler Installer & Repairer	December 3 & 4	Okemos	November 3
Boiler National Board	December 3 & 4	Okemos	November 3
Journeyman Electrician	December 9, 10, & 12	Okemos	November 10
Master Electrician	December 11	Escanaba	November 11

Plumbing contractor examinations are conducted monthly for the convenience of examinees. Established dates are September 26 and October 24. Future dates will be established and maintained on the bureau's website.

Dates and locations are subject to change.

the slab, it also prevents high levels of radon from entering the home's interior when the slab is properly sealed and vented to the building's exterior. Additionally, when a passive system is installed it can easily be retrofitted to an active system by installing a fan-powered vent in the attic to draw air through the vent pipe to the building exterior.

Which code discipline is responsible for the inspection of radon control methods? The building inspector is primarily responsible for the administration and

enforcement of the code relative to radon control methods; the starting point of radon control methods is the construction of the floor slab, base, and vapor barrier, which is part of the building inspection process. A mechanical permit would be required where an active system (fan-powered vent drawing air from beneath the slab) is installed and electrical permits when wiring is installed to power the vent.

Questions may be directed to the Building Division at 517-241-9317.

An Overview of the Office of Fire Safety

by Tony Sanfilippo
Deputy Director

On March 26, 2003, Governor Jennifer M. Granholm and Michigan Department of Consumer & Industry Services' Director David C. Hollister announced that the Office of Fire Safety would merge with the Bureau of Construction Codes and become the Bureau of Construction Codes and Fire Safety.

The Office of Fire Safety's program provides fire safety oversight; plan review and fire safety inspections; and works with the regulated community, industry, government and the fire service in pursuit of the common goal of fire safety. The Office of Fire Safety's responsibilities include:

- Construction plan review and fire safety inspection of all adult foster care, child caring, correctional and health care facilities, K-12 schools and colleges and universities
- Federally mandated inspections within health and mental care facilities
- Training and certification of fire inspectors
- Fire alarm and fire suppression system installation, documentation and certification
- Fire and tornado drills in schools, colleges, universities and dormitories
- Inspection and certification of places of assemblage
- Fire Safety Board

The State Fire Safety Board is comprised of 16 members appointed by the Governor. The Board is statutorily mandated to act as a hearing body for contested interpretations of the rules. A list of the mandated rules by facility type or activity include the following:

- Adult Foster Care Facilities.
- Dormitories.
- State Fire Inspector Certification.
- Fire Prevention (including commercial, industrial, and residential buildings, excluding 1- and 2-family dwellings and mobile homes).
- Fire Alarm and Fire Suppression

Certification.

- Health Care Facilities.
- Penal Institutions.
- Places of Public Assemblage.
- Schools, K-12, Colleges and Universities.
- State Owned and Leased Buildings.
- State Fire Safety Board Agency Rules.

The enabling act requires that these rules be consistent with national standards for fire safety and the Board provides enforcement oversight through the hearing process. Hearings are held on a required basis as a result of a denial by the Office of Fire Safety of a rule modification request. All hearings are conducted in compliance with the Administrative Procedures Act, and all decisions must be rendered by the full Board. By law, ad hoc committees assist in the development of rules. Committee membership includes representatives of the persons and organizations affected by the rules, with Fire Safety having responsibility for management of the committees.

The Code Administration Section conducts construction plan reviews of all new construction, additions or remodeling of regulated facilities and schedules annual fire safety inspections of facilities licensed pursuant to 1978 PA 368 (Public Health Code), 1979 PA 218 (Adult Foster Care Facilities) and the Federal Register for the Centers for Medicare & Medicaid Services (CMS) certification. The section is responsible for the following regulated facilities:

- Adult Foster Care Homes.
- Ambulatory Surgical Centers.
- ICF/MR and Medicare/Medicaid Programs.
- Freestanding Surgical Outpatient Facilities.
- Home for the Aged.
- Hospitals.
- Nursing Homes.
- Penal Institutions.
- Psychiatric Hospitals.
- Schools K-12, Colleges and Universities.

The Code Administration Section also conducts construction plan reviews of new construction, additions or remodeling of regulated facilities and schedules fire safety inspections of facilities licensed pursuant

to 1973 PA 116 (Child Care Organizations). The section monitors the state agreements for the Qualified Fire Inspector Program and is the fire safety rule authority for rule interpretation and technical application for the program. Responsibilities include the following facilities:

- Adult Foster Care Homes (1-6) (consultation).
- Child Caring Institutions.
- Child Day Care Centers.
- Children's Camps.
- Qualified Inspector Program.

In addition, the Code Administration Section is responsible for the coordination of a nationally recognized fire inspector training program developed by the National Fire Protection Association (NFPA) for the State of Michigan. The NFPA Fire Inspector I Certification program has been in effect for over three years. State Certified Fire Inspectors are required to recertify every five years and must earn 100 continuing education points during this time period to maintain their certification. The section also approves the courses for the continuing education program.

The Field Services Section conducts fire safety inspections of all new construction, additions or remodeling as well as required annual inspections on the above listed state-regulated facilities. Field personnel inspect for proper installation and maintenance of fire alarm and detection systems, fire suppression systems, construction type, fire separation and fire barriers/ compartments, means of egress, interior finish and emergency power and lighting. Field inspections also provide an ongoing evaluation of the effectiveness of applicable fire safety laws and codes.

Holiday Closing

State offices will be closed in observance of the following holidays:

September 1 - Labor Day
November 11 - Veteran's Day

**The New Plumbing Law
2002 PA 733**

by Robert G. Konyndyk, Chief
Plumbing Division

Domestic Kitchen Exhaust

by Tennison B. Barry, Chief
Mechanical Division

**Oil Levels and Oil Usage in
Machine Rooms**

by Calvin W. Rogler, Chief
Elevator Safety Division

The State Plumbing Act, 2002 PA 733 with its new licensing requirements contains many changes, which affect local inspection agencies. The patience exhibited by local agencies is deeply appreciated by the Bureau. Licensed master plumbers were to return their licenses and keep copies of the grandfathering application. Permit issuance for those applicants not registered with local agencies has been difficult in some cases. The bureau anticipated making at least 4,000 licensing changes not including master license and apprentice changes. At this point, processing continues.

Local inspectors enforcing the act will find several benefits. For example, the contractor's license number will now identify the business owner for contractors only. Licensees and apprentices are now required to carry their license and picture identification. Verification may be required by the inspector. Further the local governmental subdivision will have stated authority to enforce the act.

The Act establishes that businesses or industrial employers using a Plumbing Affidavit and employing a full-time master plumber must obtain permits. The affidavit requirements are similar to those being enforced by the Electrical Division. The employer and the licensed master plumber are responsible for exercising the supervision and control of the plumbing operations necessary to secure full compliance with the Act. The affidavit shall be submitted to the Plumbing Division annually, with the required fee, and does not qualify for the issuance of a plumbing contractors license.

The master plumber's license following the Act's implementation will no longer read "authorized" or "unauthorized" for permits. The master plumber will continue to be the recognized authority required to sign apprenticeship applications in all cases.

Questions may be directed to Robert Konyndyk, Chief, Plumbing Division, 517/241-9330.

The first thing you need to know is what domestic kitchen exhaust is and why it requires some sort of method to replace the air that is exhausted. Domestic kitchen exhaust is any equipment in the kitchen that removes air from the kitchen. This includes, but is not limited to, such things as exhaust hoods, ranges that have built-in exhaust systems and clothes dryers. Anything that would mechanically remove air from the kitchen to the outdoors is included in this category.

What has been happening is the mechanical inspector has come to final a project only to find that there has been a large kitchen hood installed. This exhaust hood could be anywhere from 500 cfm to 1500 cfm. The inspector comes in, turns on the fan, and it backdrafts the other gas burning equipment. Finding an approval of the mechanical systems is necessary before a permit is finalized could not only be very costly, but it could also take time you may not have to correct the problem.

This article is simply to provide awareness of this issue.

Questions may be directed to the Mechanical Division at 517/241-9325.

**Huron Valley Association
of Code Officials**

Washtenaw Community College announces the formation of the Huron Valley Association of Code Officials (HuVACO).

Washtenaw Community College, in conjunction with several Washtenaw County Building Officials have joined together to create this new Code Officials organization. The focus is to provide high quality code classes as part of a low cost, yearly membership fee for Building Officials, Building Inspectors, Plan Reviewers, and others affected by Act 54 in the greater Huron Valley area. Information relating to this new organization may be found at www.wcc.org/continuingeducation/codeofficials/.

The requirements of Rule 205, and what information is required to be kept in all elevator machine rooms was provided in the last newsletter. In this edition, one of the added requirements for hydraulic elevator machine rooms is being provided. In an attempt to catch bad hydraulic elevator cylinders before they cause a catastrophic situation, the following is also required:

R 408.8639 Three-year inspection and test requirements. Rule 639 states, in part, "An accessible written record of all oil levels and all oil added shall be maintained in the machine room."

The last sentence of this rule requires that an accessible written record of all oil levels and all oil added be maintained in the machine room. If there is **no** machine room, then the record must be maintained on-site and be accessible. The Elevator Safety Division does not provide a form for this purpose; however, written records are accepted if the necessary information is included. It is expected this record list the state serial number and include entries for the servicing and examinations required by Rule 205. The written record shall include the name of the elevator company providing service, the date the measurement was taken or the date oil was added, and the amount of oil added, the legible signature and license number of the elevator journey person who performed the work on that date. Contractors have asked if it is necessary to make entries if the oil collection means (drip bucket) is dumped back into the hydraulic reservoir. This practice is discouraged as it has been shown to cause valve problems. Oil added to the hydraulic reservoir either from an oil collection means or new oil must be documented as the oil level measurements in the tank will change.

This record is usually kept in the form of a log and must not be removed, even if the elevator company servicing the elevator is changed. On occasion the journey person locks the written record in a parts cabinet. This would not meet the requirements because the report would not be accessible for the elevator inspector to review.

Placement of Modular Classrooms

*by Irvin J. Poke, Chief
Plan Review Division*

With the passage of 2002 PA 628, school buildings are subject to the requirements of the State Construction Codes. The placement of modular classrooms has specific requirements that are not readily apparent and no different than the placement of any other modular building. Plan review and permits, in accordance with 1972 PA 230, are required before the work may begin. A building plan review will always be required. Electrical, mechanical, and plumbing plan reviews may be required depending on the scope of work. Building, electrical, mechanical, and plumbing permits will be required, unless there is no work for a specific discipline.

When submitting a school project for plan review, the "Application for School Building Projects and Plan Examination" shall be used. This application is available on the Bureau of Construction Codes and Fire Safety web site at www.michigan.gov/bccfs. By using this application there is one point of submission and the plans are distributed as necessary to receive construction code and fire safety reviews and approvals.

With the aforementioned application, 3 sets of construction documents and \$100 deposit must be submitted. The construction documents must be submitted in accordance with section 106 of the Michigan Building Code (MBC) and Rule 408.31142 of the Premanufactured Unit Rules. These rules require the submission of a site plan, soils analysis for the site, site-specific foundation plans and details, approved building system (modular building plans) and the Building System Approval Report. With an approved building system, the building plans are not subjected to another review.

The site plan must show the location of the classroom building relative to the property lines and other buildings on the site. It must also indicate the utility connections and site accessibility for persons with disabilities, etc. The MBC has

detailed requirements regarding separation distances between buildings on the same lot, which differ from the past practice. Specific attention to MBC sections 704.3, 704.5 and 705.8 must be given when locating a building on a site with an existing building. The required separation distances between buildings and buildings and property lines will be determined by the fire resistance ratings of the exterior walls of the buildings on the site.

The plan review process is the same for modular classrooms that are moved whether it is moved to a new site or within the same site. In addition to the submittals listed above, enclose the Office of Fire Safety form OFS 40. This will facilitate the fire safety review and approval. If the building was not approved under the state premanufactured unit program or does not have an OFS 40, a complete review of the unit must be performed in addition to the site and foundation plans. Any noncompliance must be corrected as part of the project construction. Having copies of all the original, approved documents for a classroom unit will make the process a lot easier.

The contractors performing the work must submit permit applications separately on the respective forms. A building permit is required for the foundation work and placement of the modular classroom on the site. An electrical permit is required to complete the electrical connections between the modules and connect the service to power. Mechanical and plumbing permits will be required, in accordance with the work, to complete the installation.

Questions may be directed to the Plan Review Division at 517/241-9328.